U.S. Postmarketing Scene - The Perspective from FDA

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NIH Technology Assessment Conference on Improving Medical Implant Performance Through Retrieval Information: Opportunities and Challenges

Objectives of the Presentation

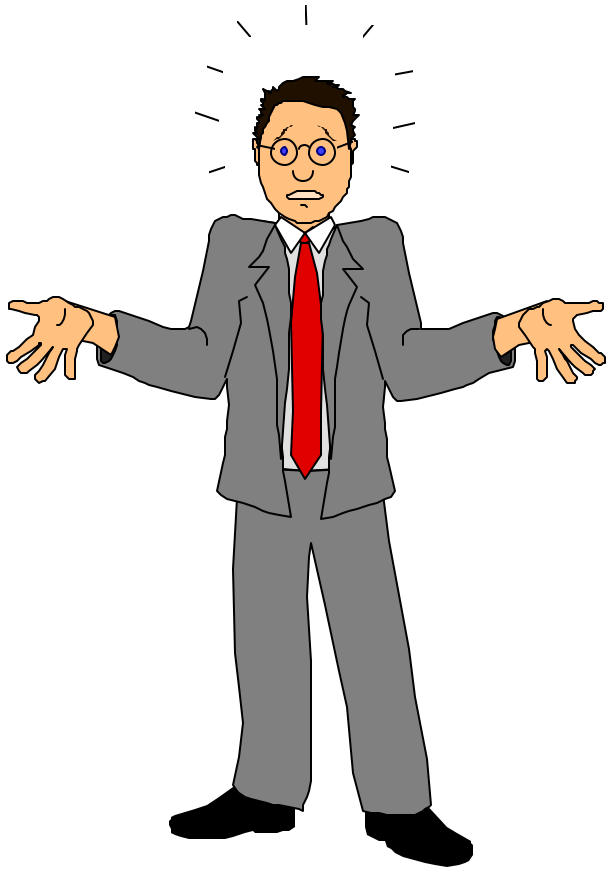
- Motivate by a current example postmarket dilemma: the St. Jude Silzone Heart Valve
- Present the regulatory and scientific framework for device postmarket evaluation at CDRH
- Present challenges in accomplishing postmarket evaluation

The St. Jude Silzone Heart Valve

- Mechanical valve: silver coated to reduce incidence of a known complication: endocarditis
- Already 30,000 have been distributed
- High rate of thromboembolic events in one U.K. clinical center
- Alert by U.K. Medical Devices Agency
- Available data has significant flaws
- What should FDA do?

Potential Actions for FDA

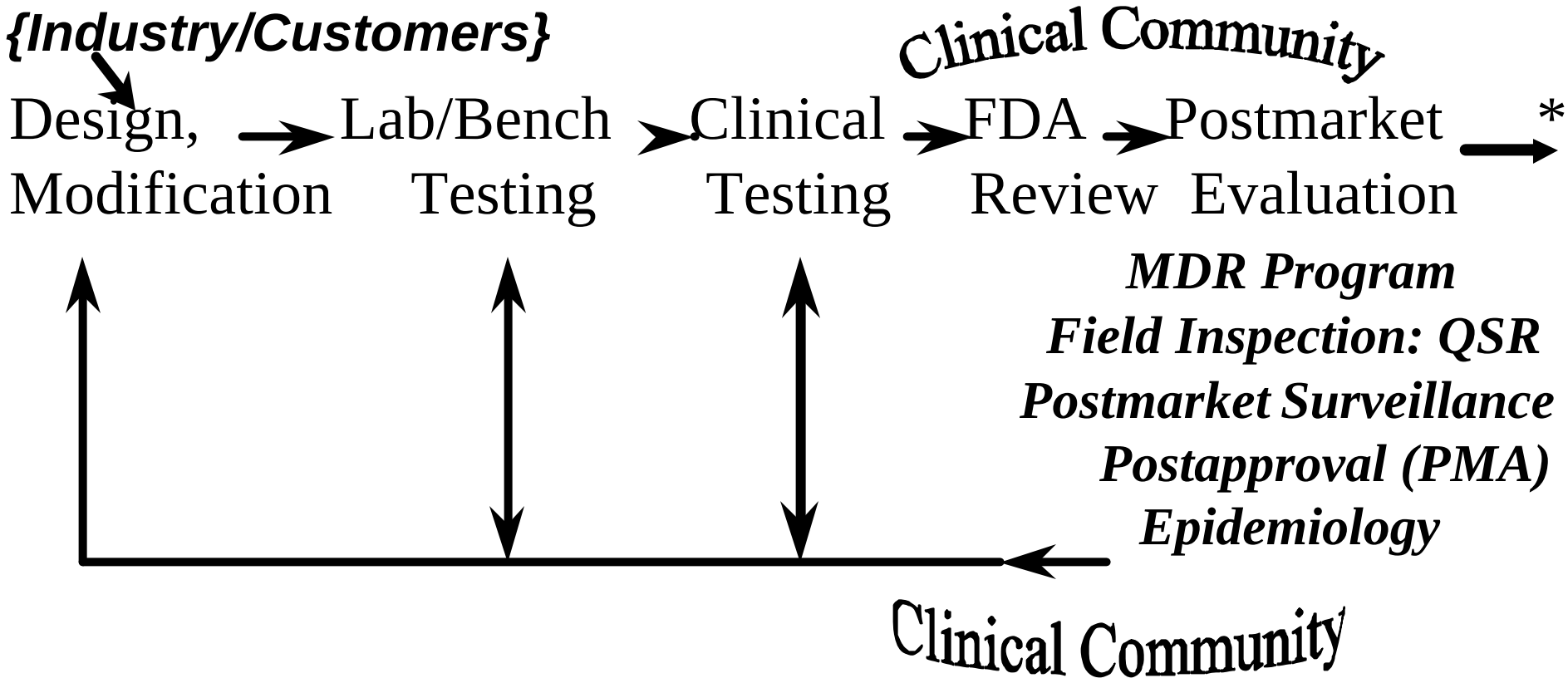
- **Judge problem of no significance**
- **Have company notify**
- **Release an FDA Advisory/Alert**
- **Collect more data under regulatory authority**
- **Force off market**



The Fundamental Problem?

The lack of systematic data on implants in the postmarket period hampers reasonable, science-based decision-making

From Design to Obsolescence: Medical Devices and Center for Devices and Radiological Health, FDA

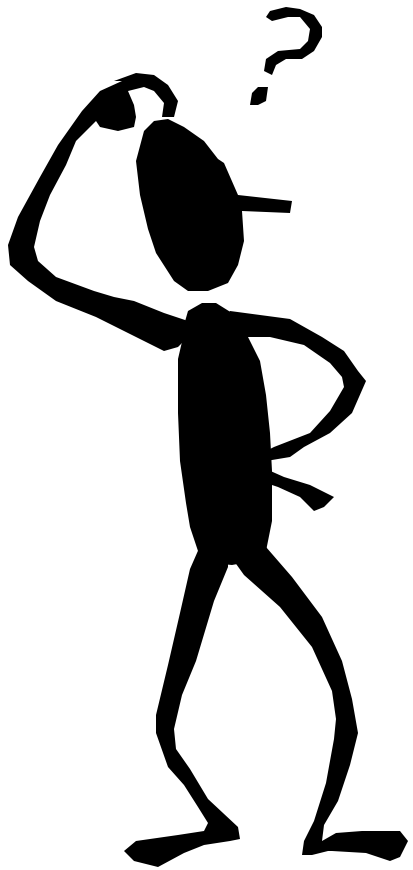


'Design' ⟶ Device evolution ⟶ 'Obsolescence'

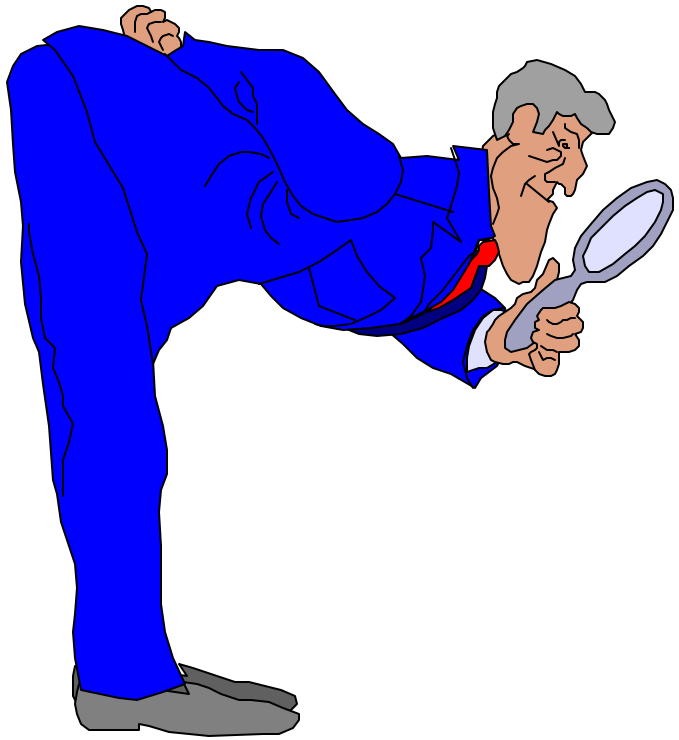
***** - *Explant retrieval and analysis*

Questions of Interest in the Postmarket Period

- Long term safety
- Performance of device in community practice
- Effects of change in user setting, patient population
- Effects of changes in technology
- Unusual pattern of adverse events



Adverse Events: Medical Device Reporting Program (MDR)



- Manufacturers must (by law) report deaths and serious injuries, if a medical device may have caused or contributed to the event, as well as malfunctions (near incidents)
- All user facilities (hospitals, nursing homes, etc.) must report deaths to the FDA and serious injuries to manufacturers

The MDR Program

- Beginning about 1992, FDA received over 100,000 medical device adverse event reports/yr
- Information includes device specifics, event description, event date, patient characteristics
- **Reports often have limited information, but also provide critical signals to FDA**
- **Note this system is problem based - no denominators**

Quality System Requirements

- The FDA holds ALL manufacturers to high standards: these are known as Good Manufacturing Practices (GMP) or Quality System Requirements (QSR)
- QSR based on ISO 9001
- These include mandated aspects of complaint handling and mandated aspects of postmarket quality monitoring

Postmarket Study Authorities: Postmarket Surveillance (Section 522) and Postapproval (PMA)

- Section 522: FDA can require manufacturers, e.g., St. Jude, to conduct postmarket surveillance - can be a wide range of studies
- Postapproval refers to PMA products: FDA has authority to require studies as conditions of approval
- Both authorities are seen as a complement to premarket

Criteria for Postmarket Surveillance Study

- FDA must develop a critical public health question in order to require a study
- FDA will consider other available postmarket strategies
- Practicality and feasibility of conduct
- How data will be used
- Priority: magnitude of risk and benefit

Frustrations in the Postmarket Period

- Rapid evolution of technology make studies obsolete
- Lack of incentives for the industry
- Lack of interest in the clinical community
- Lack of clearly specified public health question

Issues to Consider for TAC

- Which research or surveillance questions need answering (that are not addressed)?
- Sampling centers or patients - Will we get biased data?
- What about deaths and the use of the NDI?
- Device industry highly competitive: may hinder data sharing
- Even some reports not releasable under FOI are available under discovery
- Recent Presidential orders on privacy - can they help?

The Postmarket Key

- Current debate on medical error: still the “blame game”
- We need to develop systems that do not continue to blame any of the parties, but rather provide data in service of the public health